



PERMIT APPLICATION
INGROUND POOL

TYPE OR PRINT IN INK ONLY FBC 2007

CITY OF DELTONA
BUILDING AND ZONING SERVICES
2345 PROVIDENCE BLVD
DELTONA, FL 32725
386-878-8650

Permit Number _____

Confirmation Number _____

Parcel ID# _____

City of Deltona Automated Inspection
System

(386) 575-6900/(407) 936-9999

Owner's Name _____

Phone _____

() -

Project Address – Include City & Zip _____

Pool Company _____

Contractor's Name and License # _____

Phone _____

() -

Fax _____

() -

Company Address – Include City & Zip _____

E-mail _____

Electrical Company _____

Contractor's Name and License # _____

Phone _____

() -

Fax _____

() -

Screen Enclosure Company _____

Contractor's Name and License # _____

Phone _____

() -

Fax _____

() -

Gas Company _____

Contractor's Name and License # _____

Phone _____

() -

Fax _____

() -

GAS SPECIFICATIONS

- Tank Set Only _____
- Tank Set & Piping _____
- Adding pool piping to existing system _____
- Above Ground _____
- Underground _____

GAS

- Propane
- Existing Tank
- New Tank
- Existing Meter

JOB VALUATION \$ _____

Signature of Applicant
(Contractor's Signature to be notarized)

Date

STATE OF FLORIDA, COUNTY OF _____

Affirmed and subscribed before me this ____ day of _____ 20____ by _____ who is personally known to me or who has produced _____ (type of ID) identification.

Signature of Notary Public State of Florida

Print, Type or Stamp Name of Notary

(SEAL)

The applicant agrees to comply with the Municipal Ordinances and with the conditions of this permit; understands that the issuance of the permit creates no legal liability; express or implied, of the Department, Municipality, Agency or Inspector; and certifies that all of the above information is accurate. Have Permit # and confirmation # **when requesting inspections, call 386-575-6900 / 407-936-9999.** Give at least 24 hours notice on all inspections.

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE COMMENCING WORK OR RECORDING YOUR NOTICE OF COMMENCEMENT.

APPROVAL CONDITIONS: This permit is issued pursuant to the attached conditions. Failure to comply may result in suspension or revocation of this permit or other penalty.

PERMIT EXPIRATION: permit expires 180 days from date issued unless otherwise noted below or governed by law.

PERMIT ISSUED BY MUNICIPAL AGENT _____ DATE _____

Total Dynamic Head Calculation Options

(Choose one)

_____ Simplified Total Dynamic Head (STDH)
Complete STDH Worksheet – Fill in Blanks

_____ Total Dynamic Head (TDH)
Complete program or other calculations. Fill in required blanks on worksheet and attach calculations

Notes

1. If a variable speed pump is used, use the maximum pump flow in calculations.
2. For side wall drains, use appropriate side wall drain flow as published by manufacturer
3. Insert manufacturer's name and approved maximum flow.
4. See installation instructions for the number of ports to be used.
5. In-Floor suction outlet cover / grate must conform to the most recent edition of ASME/ANSI A112.19.8 and be embossed with that edition approval.
6. Pump and filter make, model, and location cannot change without submitting a revised plan and worksheet

<u>Flow and Friction Loss Per Foot</u>						
Schedule 40 PVC Pipe						
Velocity – Feet Per Second						
<u>Pipe Size</u>	<u>6 fps</u>		<u>8 fps</u>		<u>10 fps</u>	
1"	16 gpm	0.14'	21 gpm	0.23'	26 gpm	0.35'
1.5"	37 gpm	0.08'	50 gpm	0.14'	62 gpm	0.21'
2"	62 gpm	0.06'	82 gpm	0.10'	103 gpm	0.16'
2.5"	88 gpm	0.05'	117 gpm	0.09'	146 gpm	0.13'
3"	138 gpm	0.04'	181 gpm	0.07'	227 gpm	0.10'
4"	234 gpm	0.03'	313 gpm	0.05'	392 gpm	0.07'
6"	534 gpm	0.02'	712 gpm	0.03'	-----	-----

The In Ground Swimming Pool will receive 4 inspections. In addition to items usually inspected the following points will be inspected:

1. Steel and Ground
 - a. Main Drain location
 - b. Piping sizes (Branch, Trunk, & Return)
2. Deck
 - a. Typical items inspected at this time
3. Barrier & Final Electric
 - a. Swimming Pool must be empty
 - b. Main Drain covers must be with the pool pump
 - c. Barriers must be installed
 - d. Final Electric
4. Final Pool
 - a. System must be operating
 - b. Verify TDH
 - c. Verify pool equipment installation
 - d. Pressure and Vacuum gauge installed

ANSI/ASP – 7 2006 specifies three methods for determining the maximum system flow rate.
The following simplified TDH calculation is one of the three methods.

Simplified Total Dynamic Head Calculation Worksheet

Determine Maximum System Flow Rate

Minimum Flow Rate: 35 gpm Per Skimmer

1) Calculate Pool Volume Surface Area _____ X _____ Average Depth _____ X _____ Gal/ cubic foot 7.48 _____ Total Volume in Gallons _____	2) Turn Over Time Number of Hours _____ X _____ 60 Minutes _____ Turnover time in Minutes _____	3) Determine Maximum Flow Rate Volume _____ Divided by _____ Turnover Minutes _____ Add _____ Feature Flow Rate _____ System Flow Rate _____	4) Spa Jet Flow Rate Number of Jets _____ X _____ Jet Flow gpm per Jet _____ Total Jet Flow Rate _____ gpm
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Determine Pipe Sizes

Branch Piping to be _____ inch to keep velocity @ 6 fps maximum at _____ gpm Maximum System Flow Rate

Trunk Piping to be _____ inch to keep velocity @ 8 fps maximum at _____ gpm Maximum System Flow Rate

Return Piping to be _____ inch to keep velocity @ 10 fps maximum at _____ gpm Maximum System Flow Rate

Determine Simplified TDH

- Distance from pool to pump _____ feet
- Suction Pipe Friction Loss per Foot: Pipe size _____ inch, Gallon Per Minute _____ = _____ From friction loss chart
- Return Pipe Friction Loss per foot: Pipe size _____ inch, Gallon Per Minute _____ = _____ From friction loss chart
- Suction Pipe Length _____ X Friction Loss _____ = Suction Pipe TDH _____
- Return Pipe Length _____ X Friction Loss _____ = Return Pipe TDH _____

Piping TDH: _____
 Filter loss in TDH (from filter data sheet): _____
 Heater loss in TDH (from heater data sheet): _____
 Total all other loss: _____
TOTAL SIMPLIFIED TDH: _____

Selected Pump and Main Drain Cover

Pump Manufacturer and Model _____
 Pump Size in HP _____
 (use pump curve for Simplified TDH & System Flow Rate)

Main Drain Cover Manufacturer & Model _____
 (System flow Rate must not exceed approved cover flow rate)

Check all that apply

- _____ 2 suction outlets @ _____ gpm max. flow
 _____ 3 suction outlets @ _____ gpm max flow
 _____ Channel Drain @ _____ gpm max flow

TOTAL DYNAMIC HEAD IN FEET CONVERSION CHART INCHES MERCURY (VACUUM GAUGE)

PSI (PRESSURE GAUGE)

	0	2	4	6	8	10	12	14	16	18
0	0	2.3	4.5	6.8	9	11.3	13.6	15.8	18.1	20.3
1	2.3	4.6	6.8	9.1	11.4	13.6	15.9	18.1	20.4	22.7
2	4.6	6.9	9.1	11.4	13.7	15.9	18.2	20.4	22.7	25
3	6.9	9.2	11.5	13.7	16	18.2	20.5	22.8	25	27.3
4	9.2	11.5	13.8	16	18.3	20.5	22.8	25.1	27.3	29.6
5	11.5	13.8	16.1	18.3	20.6	22.8	25.1	27.4	29.6	31.9
6	13.9	16.1	18.4	20.6	22.9	25.2	27.4	29.7	31.9	34.2
7	16.2	18.4	20.7	23	25.2	27.5	29.7	32	34.3	36.5
8	18.5	20.7	23	25.3	27.5	29.8	32	34.3	36.6	38.8
9	20.8	23.1	25.3	27.6	29.8	32.1	34.3	36.6	38.9	41.1
10	23.1	25.4	27.6	29.9	32.1	34.4	36.7	38.9	41.2	43.4
11	25.4	27.7	29.9	32.2	34.5	36.7	39	41.2	43.5	45.8
12	27.7	30	32.2	34.5	36.8	39	41.3	43.5	45.8	48.1
13	30	32.3	34.6	36.8	39.1	41.3	43.6	45.9	48.1	50.4
14	32.3	34.6	36.9	39.1	41.4	43.6	45.9	48.2	50.4	52.7
15	34.6	36.9	39.2	41.4	43.7	45.9	48.2	50.5	52.7	55
16	37	39.2	41.5	43.7	46	48.3	50.5	52.8	55	57.3
17	39.3	41.5	43.8	46.1	48.3	50.6	52.8	55.1	57.4	59.6
18	41.6	43.8	46.1	48.4	50.6	52.9	55.1	57.4	59.7	61.9
19	43.9	46.2	48.4	50.7	52.9	55.2	57.4	59.7	62	64.2
20	46.2	48.5	50.7	53	55.2	57.5	59.8	62	64.3	66.5
21	48.5	50.8	53	55.3	57.6	59.8	62.1	64.3	66.6	68.9
22	50.8	53.1	55.3	57.6	59.9	62.1	64.4	66.6	68.9	71.2
23	53.1	55.4	57.7	59.9	62.2	64.4	66.7	69	71.2	73.5
24	55.4	57.7	60	62.2	64.5	66.7	69	71.3	73.5	75.8
25	57.8	60	62.3	64.5	66.8	69.1	71.3	73.6	75.8	78.1
26	60.1	62.3	64.6	66.8	69.1	71.4	73.6	75.9	78.1	80.4
27	62.4	64.6	66.9	69.2	71.4	73.7	75.9	78.2	80.5	82.7
28	64.7	66.9	69.2	71.5	73.7	76	78.2	80.5	82.8	85
29	67	69.3	71.5	73.8	76	78.3	80.5	82.8	85.1	87.3
30	69.3	71.6	73.8	76.1	78.3	80.6	82.9	85.1	87.4	89.6
31	71.6	73.9	76.1	78.4	80.7	82.9	85.2	87.4	89.7	92
32	73.9	76.2	78.4	80.7	83	85.2	87.5	89.7	92	94.3
33	76.2	78.5	80.7	83	85.3	87.5	89.8	92	94.3	96.6
34	78.5	80.8	83.1	85.3	87.6	89.8	92.1	94.4	96.6	98.9
35	80.9	83.1	85.4	87.6	89.9	92.2	94.4	96.7	98.9	101.2

NOTE: FIELD TDH MUST BE EQUAL TO OR HIGHER THAN THE CALCULATED TDH

System Flow Rate				GPM
Pipe Size	Branch	Trunk	Return	
Total Dynamic Head				
Pump	Model #			
Main Drain Cover	Model #			

***System flow rate must not exceed approved cover flow rate**